FACT SHEET

RURAL AND REMOTE ROAD SAFETY

a publication of the Australasian College of Road Safety

IMPORTANT ISSUES

Two thirds of the Australian population live in capital cities and metropolitan areas[1] but more than half of the road fatalities occur on rural and remote roads[2]. Despite this, the rural and remote road safety problem has received limited attention.

Definitions of 'rural'

Defining where 'urban' areas end and 'rural' areas begin is not always clear. Differing classification systems categorise road crashes according to different criteria, which makes comparisons between individual studies difficult. Broadly, 'rural' can be considered as those areas with a low population density and without ready access to medical services.

The Australian Bureau of Statistics (ABS) uses a geographic classification system for locations based on road distances from major population centres[3]. Classifications of rural crashes using speed limits eg. 100km or greater as a proxy indicator have been used in Australian Transport jurisdictions[4]. A strong case can be made for consistency in this area both nationally and with health related classifications[5].

Fatal crashes

Rural road crashes contribute substantially to the overall road toll in Australia. Analysing fatal crashes in Australia for the years 2006-2010, using the proxy measure of 100km/h speed zones as an indicator of a rural crash[2]:

- It is estimated that at least 700 people are killed annually in rural areas, with many thousands seriously injured.
- These crashes make up just under half of all fatal road crashes (46%) and fatalities (48%), despite less than a third (31%) of the Australian population living outside major metropolitan centres[3].
- 27% of these crashes occurred in New South Wales, 22% in Victoria, 21% in Queensland, 14% in Western Australia, 8% in South Australia, 4% in the Northern Territory and 4% in Tasmania.

Road trauma is a major cause of death in rural and remote Australia, and the risk of sustaining a road crash injury increases with degree of remoteness from metropolitan centres.

- In the year 2000, the per capita risk of dying or being hospitalized in a rural compared with an urban crash was 4.2 times and 2.3 times higher respectively[2].
- Rural road crashes are not decreasing at the same rate as urban trends.
- Many of the mainstream interventions adopted in urban areas have not been effective in rural areas due to a lack of direct community relevance and involvement in their design[6].

What are the characteristics of rural road crashes?

Rural road use and associated crashes have a number of common characteristics including[4]:

- Generally higher travel speeds and consequently a greater risk of resulting fatality or serious injury in the event of a crash
- Longer travelling distances
- A more varied road environment including a higher proportion of unsealed, dirt roads
- A more varied vehicle population, with more heavy, agricultural and mining vehicles
- A higher representation of single vehicle crashes, particularly run-off-road crashes.

Factors consistently associated with rural road crashes.

Human factors

- The proportion of serious crashes involving alcohol has been found to increase with an increasing level of remoteness[5].
- A recent North Queensland study of hospitalized road users found that 30% of rural drivers reported being distracted prior to the crash[6]
- The longer travel distances and associated driving time in rural areas lead to increased risk of fatigue effects[7]
- The sparse roadside environment in rural and remote areas has also been suggested as a potential cause of 'monotony' and fatigue-like effects[8]
- Despite high levels of seatbelt use in the general community, the non-use of restraints in a large proportion of rural crashes is a substantial contributor to increasing the severity of associated injuries[6]
- Inappropriate speed for the road conditions[9]
- Other factors contributing to the incidence and severity of crash outcomes include: increased exposure through greater distances travelled; and delays in retrieval and accessing medical treatment and rehabilitation[2]

Environmental factors

- Lower quality road conditions (eg. less shoulder width, unsealed surface) and the interaction of this environment with negotiating curves and inappropriate speed for the conditions.
- A road environment that is less forgiving - trees, embankments, drop-offs.
- Livestock, farm and mining vehicles and other unique hazards of rural locations.[10].

Vehicle factors

- An older and less safe vehicle fleet.
- Increased diversity in vehicle fleet.
- Inexperience with a particular vehicle type is a risk factor in rural driving.
- Vehicles that are known to have a high relative crash risk in rural areas are motorcycles and heavy vehicles.
- Approximately 40% of all serious transport casualties presenting at Emergency departments in Queensland hospitals are motorcyclists[6].

Who is at risk?

- Local residents: most rural crashes involve local residents, with only a very small proportion of crashes attributable to international or interstate visitors.
- Young drivers 17-24 years are at an elevated level of crash risk generally, but male drivers and riders aged 30 to 50 years make up the majority of serious road crash casualties in rural areas.
- Pedestrians – a small number but lack of facilities and intoxication create a high risk[6]. Indigenous persons are three times more likely to be killed in a road crash and significantly more likely to be injured as passengers or pedestrians[11]. A current research study is examining the extent to which this may reflect similar factors as those leading to the very high remote crash involvement[12].
- The typical motorcycle hospital presentation is a male rider, riding for leisure on the weekend (often on an unfamiliar road).

When do rural crashes occur?

Most casualty crashes occur during daylight hours, with the daily highest number occurring between 2 and 6pm. More occur on a Saturday or Sunday than other days of the week[6].

Tips for staying safe

- **Obey the road rules** in relation to alcohol and drug consumption, speed, passenger loading, and restraint and helmet wearing. The "fatal four" are the primary contributing factors to rural Australian crashes.
- **Reduce speed to the driving conditions not the speed limit.** Dirt and gravel roads are widespread in rural areas and road shoulders are often unsealed. Traction on these surfaces is poorer making it easy to lose control of your vehicle particularly on curves, and hazards can appear unexpectedly (e.g. wildlife crossings or potholes). Slow down or stop if you are being distracted e.g. changing CD's.
- **Be alert for livestock, wildlife and pedestrians** on rural roads, particularly at dusk and dawn.
- **Take a break** every two hours on long trips.
- **Ensure your vehicle is roadworthy, registered and in good mechanical order.**
- If you have vehicle difficulties e.g. Flat tyre, drive to a safe off the road location before taking action.
- If driving a 4WD, ensure you understand how and when to engage 4WD and the particular hazards associated with this vehicle type.
- Allow plenty of space for road trains and only overtake when you feel confident you can safely do so.
- Consider fitting intelligent transport systems (ITS) to your vehicle such as GPS navigation systems, fatigue and speed warning systems, etc.
- Electronic Stability Control (ESC) appears to have safety benefits for rural and remote driving.
- Don't drive through flood waters.
- **Be mindful of distance and isolation in remote areas.** To be safe:
  - » Plan your trip carefully in advance.
  - » Check road conditions with the relevant state authority.
  - » Always tell someone where you are going, and roughly what time to expect you back.
  - » Carry current and detailed road maps.
  - » Always carry plenty of water and food.
  - » Always make sure your fuel tank is full and you have sufficient petrol to get to the next station. If your car has specific fuel or service requirements (e.g. autogas or lead replacement) make sure your planned station stops have the facilities to meet your needs.
  - » If you do break down in remote areas, never leave the vehicle.

Future directions

Australia's Rural Road Safety Action Plan was released in 1996, and the Australian Transport Safety Bureau, in coordination with key stakeholder groups developed the National Road Safety Strategy 2001-2010 which proposed a range of measures focussing on improving safety in rural and remote areas. In order to guide the development of appropriate safety strategies, two major rural and remote road safety studies have been conducted. A national literature review and state crash comparison study in 2005 investigated the nature and causes of Australian rural crashes. A major Queensland study completed in 2008 examined the reasons behind the high prevalence of crashes in rural and remote North Queensland.

Recommendations that have arisen from the studies have called for:

- A nationally consistent and linked classification and data system for rural and remote road crashes to enable accurate data collection and comparison of effectiveness of countermeasures. Ideally, this would be consistent with Health classifications.
- The development of effective and culturally relevant education campaigns targeting high risk groups and behaviours.
- Innovative approaches to enforcement strategies targeting at-risk groups, unsafe behaviours and high-risk crash times.
- Nationally consistent and reduced speed limits in rural areas. A recent Queensland study recommended the reduction of rural speed limits to 90km/hr for sealed off-highway roads and 80km/hr for all unsealed roads.
- The development of programs to target the high levels of alcohol consumption in rural and remote areas including mandated referrals to drink driving rehabilitation programs and increased use of interlocks for recidivist drink drivers.
- Improved road design and engineering practices based on a comprehensive analysis of the network to minimize the role of the road and its environment as a factor in crashes.
- Identification of high crash zones and the implementation and auditing of reactive maintenance programs by local authorities.
- Improved crash notification and retrieval systems for emergency services and increased emergency response training for local nurses and GPs.
- Further research into the role of ITS to improve the safety of vehicles and the speed of retrieval processes (e.g. may-day systems in the event of a crash, warning systems for excessive speed, fatigue and rail alert warning systems, etc)

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For more information

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